

Implementation Roadmap February 2003

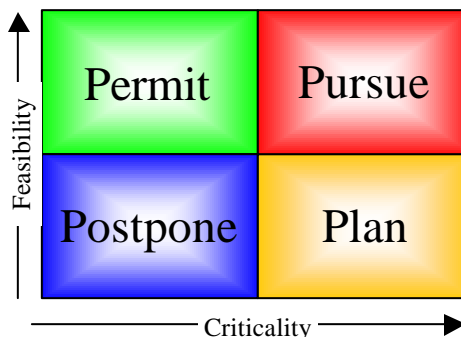
A. INTRODUCTION

The findings and recommendations of the Enterprise IT Strategy report are ones that suggest bold changes to dramatically improve the quality of government service delivery in Massachusetts. While there is potential for tremendous benefit to the Commonwealth's citizens, businesses, government agencies, employees, and taxpayers, there is an equally great task of translating recommendations into implementation. Not wishing to see their recommendations become ones which, while very good, never see life beyond the pages upon which they are written, the IT Commission has assembled an initial high-level implementation roadmap.

In reviewing the Commission's recommendations, several observations become readily apparent. First, many of the recommendations transcend what one might consider the conventional scope of "information technology". Issues such as formulating an enterprise strategy (see page 115), maintaining and/or enhancing the skills of the Commonwealth's IT personnel (see page 142), and embracing a more comprehensive approach to cost-benefit analyses (see page 112) reach beyond the boundaries of IT into enterprise strategic planning, human resources, and financial management. Second, many of the Commission's recommendations cannot be fully implemented in the short term. The institution of communities of interest or customer-centric metrics, for example, cannot occur in days or weeks but rather must be planned out carefully and then implemented over longer periods of time. Third, at the heart of many of the Commission's recommendations is the reality that enterprise IT in Massachusetts is not merely about operational change, but about significant cultural change. For these reasons, any framework for implementing enterprise IT management in the Commonwealth must account for the scope and intensity of the changes being proposed, and break those changes into smaller, manageable pieces.

The Commission has addressed this complexity in two ways, beginning with an assessment of both the criticality and feasibility of each recommendation. Recognizing that it is simply not possible to effectively implement all of the recommendations provided in Chapter IV at once, the Commission prioritized its recommendations by categorizing them each into one of four areas:

- High Criticality and High Feasibility = should be pursued immediately.
- High Criticality but Low Feasibility = requires greater planning.
- Low Criticality but High Feasibility = may be permitted but should not be afforded significant amounts of effort.
- Low Criticality and Low Feasibility = should be postponed in the short term or indefinitely.



The results of this prioritization exercise appear in Part B of this chapter. In addition to being prioritized however, the recommendations were then translated into a series of more specific and manageable actions. Known as the Multi-Generational Project Planning Process (MGP³), this approach is a best practice employed largely in the private sector, at such notable companies as General Electric, Johnson & Johnson, and DuPont. It enables leaders to translate large-scale, long-term initiatives into more tangible phases and discrete timeframes.

The Multi-Generational Plan (MGP) has three distinct characteristics. First, it breaks the overall set of recommendations into smaller phases, called “generations”. While most MGPs consist of three generations, some may have more and some may have fewer. The second characteristic is that a vision is articulated for each generation. The third characteristic is the identification of the specific actions, recommendations, enablers, or processes that support the vision of a particular generation.

	Generation 1	Generation 2	Generation 3
Vision	<ul style="list-style-type: none"> Automation 	<ul style="list-style-type: none"> Propagation 	<ul style="list-style-type: none"> Communication
Functions	<ul style="list-style-type: none"> Automation of back-office accounting processes 	<ul style="list-style-type: none"> Expansion of technology to front-office functions Computers for the individual consumer 	<ul style="list-style-type: none"> Connectivity between individual computers Automation of information sharing
Enablers	<ul style="list-style-type: none"> Mainframes Super Computers 	<ul style="list-style-type: none"> Personal Computers (PCs) Desktop Software 	<ul style="list-style-type: none"> Internet Electronic Mail World Wide Web

This sample MGP illustrates the development of the computer. In constructing an MGP, one always starts with the vision for the final generation in mind. In the case of the computer, it would be a fully integrated network of machines that communicate with each other. From a development standpoint, this was an impossible goal to achieve at the very outset of building the first computer. Therefore, the evolution of the computer took place across several generations – each with its own vision, its own steps, and its own achievements.

The IT Commission has embraced this framework by translating the recommendations of Chapter IV into more actionable steps, and organizing them into a multi-generational framework. The results of this MGP³ are shown on page 171. Combined with the prioritization of the full list of recommendations, the IT Commission has produced a workable, high-level implementation roadmap through which several critical paths of activity can be identified for action in the immediate, intermediate, and long terms.

B. PRIORITIZATION OF RECOMMENDATIONS

Governance		Priority
G1	Elevate the role of the Office of CIO for the Commonwealth and expand its scope to better manage both IT policy and operations for the enterprise.	Pursue
G2	Establish an IT Advisory Board to support the Commonwealth CIO in setting enterprise policies and standards, and in providing oversight of major IT initiatives.	Pursue
G3	Establish formal reporting relationships between the Office of the CIO and agency CIOs.	Plan
G4	Leverage “community of interest” concepts to deliver government services more effectively and efficiently.	Plan
G5	Transform ITD to be a customer-centric, central IT provider.	Pursue
G6	Enhance and refine fiduciary responsibility for IT funding and management within the Office of the CIO.	Pursue
G7	Adopt a “Total Cost of Ownership” approach and cost/benefit analysis for the assessment, management, monitoring, and funding of major IT initiatives and processes across the enterprise.	Pursue
Strategy		Priority
S1	Define the enterprise, articulate an enterprise vision, and create an enterprise strategic business plan.	Pursue
S2	Establish a formal process for creating and updating the enterprise IT strategic plan for managing and expanding information technology in the Commonwealth, in alignment with the business strategy.	Plan
S3	Develop a comprehensive IT infrastructure plan for the enterprise.	Plan
S4	Align the Commonwealth’s legal framework with the enterprise strategy and IT plan, within Constitutional guidelines.	Pursue
S5	Align monies from the IT Bond Fund with objectives set out in the enterprise strategic plan.	Pursue
S6	Establish and monitor enterprise service and performance metrics, using a balanced scorecard approach, to measure performance in order to drive accountability and ownership for enterprise success.	Pursue
S7	Drive change within the enterprise by taking a business process reengineering approach and leveraging IT for delivery improvements.	Pursue
Architecture and Standards		Priority
A1	Establish the position of Chief Technology Officer.	Pursue
A2	Update the existing architecture within an established framework.	Permit
A3	Establish a governance process that obtains input from across the enterprise in establishing architecture standards.	Pursue
A4	Define objectives, incentives, and accountabilities that result in integration, implementation, and execution of common processes across “communities of interest”.	Plan
A5	Leverage existing application assets by establishing an “open source” program within the Commonwealth.	Plan

Infrastructure		Priority
I1	Undertake consolidation and modernization of the IT infrastructure, in line with the strategic objectives and supported by an analysis of total cost versus expected benefits.	Plan
I2	Establish quality assurance and quality management practices.	Pursue
I3	Coordinate and prioritize business continuity planning of operations centrally, including both shared IT infrastructure and an enterprise approach to individual agency business applications.	Pursue
I4	Manage applications as a portfolio across the enterprise.	Plan
I5	Establish central management of IT assets within the Commonwealth and establish plans to refresh technology and to update skills.	Pursue
I6	Enhance ITD to provide common infrastructure and shared services for all agencies, and offering these and other services to the judicial and legislative branches of government.	Pursue
Partnerships		Priority
P1	Foster public-public (i.e., federal, local, cross-jurisdictional) and public-private partnerships to provide a seamless service interface in Massachusetts.	Plan
P2	Strengthen partnerships to expand infrastructure, creating more ubiquitous access to technology throughout the Commonwealth.	Plan
P3	Maximize investments to serve the needs of all levels of government, particularly cities and towns, by leveraging partnerships and common, standard solutions.	Plan
P4	Maximize private sector expertise and service to efficiently and effectively deliver government services.	Pursue
Security		Priority
	Omitted	

C. MULTI-GENERATIONAL PLAN

	Generation 1	Generation 2	Generation 3
Vision	Preparation Enterprise concept begins with executive branch agencies Voluntary participation by agencies from other branches Communities of Interest (COIs) defined Enterprise standards selected and communicated Enterprise inventory completed	Mobilization Collective enterprise power is leveraged and benefits are realized Governance mechanisms configured to meet enterprise requirements Processes are improved and measured according to customer needs Availability of reliable enterprise shared services IT Spending and Return on Investment (ROI) is both objective and accurate	Transformation Single Commonwealth enterprise, presenting single face of government in Mass. All IT investments are enterprise-driven according to customer and agency needs Enterprise has common enterprise infrastructure, consolidated by platform Massachusetts has ubiquitous access to value-added technology Enterprise performance is measured using customer-centric business metrics
Action Steps	Governance Define, authorize, and communicate the scope and authority of Office of CIO. -- Budget Authority -- Procurement -- Project Management -- Quality Assurance and Quality Management Conduct an organizational assessment. Establish an IT Advisory Board. Identify potential communities of interest, leveraging interest areas established in Governor's agenda (e.g. Labor & Commerce, Commonwealth Development).	Mobilize the Office of the CIO. -- Establish lines of authority. -- Define new roles (COO, CTO, CSO) and fill new positions. Transform ITD into the central service provider of enterprise IT services. -- Establish Memoranda of Understanding with Legislative & Judicial branches -- Establish Service Level Agreements between providers and customers Conduct integrated strategic and IT planning around Communities of Interest.	Implement information technology solutions designed to enable common business processes of the Communities of Interest. Develop both incentives and accountabilities that result in the integration of common processes across Communities of Interest.
	IT Strategy Develop and validate an IT Strategy formulated from and aligned with the Governor's published agenda. Require objective and measurable process performance metrics and goals in agency IT investment proposals.	Align Commonwealth's legal framework with the IT Strategic Plan. Align IT investment mechanisms with objectives set out in the Enterprise IT Strategic Plan. -- Business Process Reengineering considerations -- Established process performance metrics	Establish enterprise strategy that defines overall objectives for the delivery of government services in Massachusetts. Institute a recurring process for revising and updating the IT Strategic Plan and ensuring its alignment with the overall Enterprise Strategic Plan. Define customer-centric business metrics to be used as standard measures across the enterprise.
	Standards Select a single architectural framework and update existing architectural standards to align with that framework. Institute an "open source" program for the Commonwealth. Communicate the value of a standardized architectural approach across the enterprise.	Establish a mechanism (governance body, processes, etc.) to further develop and promote compliance with a comprehensive set of architectural standards. Publish and deploy standards across the enterprise.	Ensure that all IT projects comply with established architectural standards to promote greater integration and interoperability of information technology across the enterprise.
	Infrastructure Inventory existing applications to create a single enterprise portfolio. Conduct comprehensive inventory of existing infrastructural elements (i.e. voice networks, data networks, data centers, and portfolio of applications). Define scope of enterprise infrastructure and identify and prioritize opportunities for infrastructure improvement across the enterprise. Identify and verify mission critical components (functions and systems) of the infrastructure, leveraging existing contingency plans, Y2K inventory, etc.	Develop a strategic IT infrastructure plan based upon inventory of as is infrastructure and identification of improvement opportunities. Commence consolidation and/or modernization of enterprise infrastructure in the Commonwealth. Coordinate and leverage requirements of mission critical functions and systems to identify and provide an environment which supports continuity of enterprise operations. Identify factors necessary to calculate Total Cost of Ownership (TCO) for the application portfolio. CIO negotiates bulk purchase agreements for enterprise IT assets (hardware, software, peripherals, etc.).	Optimize enterprise IT infrastructure through comprehensive consolidation and modernization. Maintain a comprehensive business continuity plan for the enterprise, supported by SLA's between Commonwealth agencies and the Office of the CIO. Use application portfolio management to improve IT investment decisions. Deploy all enterprise IT assets according to agency requirements and maintain asset tracking from a single point.
	Partnerships Develop a forum with local governments to leverage shared services and repeatable solutions (i.e. credit card processing, web hosting, etc.). Research and identify legal obstacles inhibiting partnerships between the state and local governments (i.e. infrastructure, procurement, access, etc.). Identify pilot project between federal, state, and local government to create "single view of government" model. Implement annual report card (metrics) on statewide connectivity. Complete Phases I and II of MassConnect Create quarterly forums of private sector thought leadership	Provide incentives for local governments to participate in Mass.gov. Create service offerings for local governments through ITD & Office of the CIO. Begin implementation of Phase III of MassConnect. Create legislative package to implement MassBroadband initiatives. Create internet-based pilot project targeting single Community of Interest (i.e. healthcare reform). Address legal barriers for public-private partnerships, including multi-year contracting.	Use combination of public-public and public-private partnerships to promote "single face of government" enterprise wide. Develop specialized portals around Communities of Interest. Leverage Communities of Interest to establish geographic and functional Centers of Excellence.
	Security Omitted	Omitted	Omitted

